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## The Ancient Economy, Transferable Technologies and the Bronze Age World-system: A View from the Northeastern Frontier of the Ancient Near East

Phil L. Kohl

Scholarly reaction to the publication of I. Wallerstein's initial volume (1974) on the modern world system was surprisingly strong. Initial enthusiastic responses were elicited from historians of the *Annales* school and from historians and anthropologists working within a more critical or Marxist tradition. Opponents represented an equally broad spectrum of political and academic traditions with criticisms extending from empirical inaccuracies to theoretical objections over Wallerstein's view of history or, more specifically, over the teleological determinism implicit in his reified concept of a supra-historical world system (e.g. Brenner 1977; Hunt 1978; for a balanced but critical assessment Wolf 1982: 21–3). The work clearly was related to the writings of dependency theorists, such as Amin (1974) and Frank (1976), but was distinguished by its longer and more detailed historical perspective.

Ancient and medieval historians were less drawn into the creative furor stimulated by the study for the simple reason that Wallerstein was interested in the formation of the modern world system, which he viewed as a process that began in the sixteenth century and which he considered qualitatively distinct from earlier large-scale developments. Ancient empires, which encompassed 'worlds' of their day, functioned and were structured differently from the unique system that ushered in the modern era:

*Empires were a constant feature of the world scene for 5,000 years. There were continuously several such empires in various parts of the world at any given point of time. The political centralization of an empire was at one and the same time its strength and weakness. . . . Political empires are a primitive means of economic domination. It is the social achievement of the modern world, if you will, to have invented the technology that makes it possible to increase the flow of the surplus from the lower strata to the upper strata, from the periphery to the center, from the majority to the minority by eliminating the 'waste' of too cumbersome a political structure. (1974, 15–16, emphasis added)*

The modern world system is distinguished by primarily economic as opposed to political, cultural, or presumably even ideological linkages among its constituent

parts. Political diversity, primacy of the economic sphere, and control and development of a technology capable of supporting and expanding such a system are the critical variables, according to Wallerstein, that distinguish the modern era from ancient and medieval times. The modern world system also is characterized by a highly complex global division of labor which results in major regional differences: some areas become exporters of primary resources, while others produce and successfully market industrial products. The exchange uniting different regions is not symmetrical but structurally weighted or tipped in favor of the politically more powerful and technologically advanced core states of the West. The exchange relations which develop are thus beneficial to the core areas and detrimental to the peripheries which essentially are exploited or 'underdeveloped' by these relations. Wallerstein's model becomes even more complex when he shows how specific nation-states' core status shifts over time and how certain countries, termed semi-peripheries, provide a built-in flexibility to the world system.

The question naturally arises as to whether or not Wallerstein is correct in his insistence that such a system only emerged during the beginnings of the modern era in the sixteenth century AD. One intelligent and generally laudatory review of Wallerstein's original study criticizes the book precisely for its perpetuation of this great divide between modern and ancient/medieval times:

*From the point of view of social science, Wallerstein's most significant contribution is the suggestion that processes of interaction and unequal exchange might explain events not only in Third World areas transformed by European hegemony in the nineteenth and twentieth centuries, but in earlier periods within Europe itself. This establishes a unity of theory between Western and non-Western peoples, the absence of which has long been problematic in unilinear models of change whose ethnocentrism are consistent with their inability to account for the disparity between Europe's precocious advances and other people's 'lag'. . . . The Modern World-System suffers from too narrow an application of its own theory. For, although Wallerstein admires Owen Lattimore's description of the differentiation process according to which ancient Chinese civilization 'gave birth to barbarism', . . . he does not view the pre-capitalist world as systematically integrated through the operations of world economic forces. (Schneider 1977:20)*

According to the reviewer, Wallerstein too easily dismisses the external economic linkages forged by non-Western political empires, denigrates the effects and importance of earlier long-distance trade in luxury goods, and, consequently, fails to adequately explain or understand the motivations and stimuli which led to the Great Discoveries and the beginnings of the modern era. The book suffers, in short, from an unnecessary, self-limiting ethnocentrism which bestows special status upon modern European development.

Thus, through their insistence upon the unique features of the modern capitalist world system, Wallerstein and his disciples join the ranks of the 'substantivists' in economic anthropology and the 'primitivists' in ancient history who qualitatively distinguish ancient from modern economies and who argue against the applicability of contemporary economic theory to primitive and ancient social formations. Perhaps the most celebrated theorist of this school, Karl Polanyi, set his Great

Transformation in the nineteenth, not the sixteenth, century and emphasized different factors, such as the relative lack of alienation, commercial exchange, and formal marketplaces in precapitalist societies. Wallerstein's view of earlier times is less developed but also far less utopian: a politically non-unified world-economy never emerged in ancient times for the technology necessary 'to increase the flow of surplus' sufficient to maintain it was never developed.

This chapter cannot review, much less settle, this hallowed, perhaps irresolvable debate (cf. Pearson 1957 for a now dated over view but cf. now Hall 1985) over qualitative or only quantitative differences between modern and precapitalist societies. Application of Wallerstein's model of a world system to earlier periods does not imply a rejection of the substantivist argument for essential differences or incomparabilities, a position which grapples with other issues besides the articulation of separate societies in external networks of exchange. The important problem is to determine the degree to which the world system's model can be employed to elucidate the development of precapitalist societies. Points of non-correspondence may be as instructive as similarities, or, in other words, the utility of the model can only be assessed by attempting to apply it to earlier social formations. This chapter will selectively review archaeological materials from early class societies in the ancient Near East that illustrate external exchange relations over widely separate areas.

### **Political Empires and Intercultural Exchange in the Ancient Near East**

Wallerstein's characterization and dismissal of earlier world-empires must be examined in greater detail. According to Wallerstein, empires are political units; they expand by incorporating new territories and obtain necessary resources and materials through the coercive imposition of tributes and taxes. Goods flow to the political center and – in classic Polanyi-like fashion – are redistributed by the State according to its own specific rules of allocation. Earlier 'world-economies' may have existed, but they always were transformed into political empires. The argument for the unique character of modern times again seems to emphasize differences in the forces of production or have a technological base:

*The modern world-economy might have gone in that same direction [towards empire] – indeed it has sporadically seemed as though it would – except that the techniques of modern capitalism and the technology of modern science, the two being somewhat linked as we know, enabled this world-economy to thrive, produce, and expand without the emergence of a unified political structure. (1974:16)*

Certainly, ancient political empires levied tributes on conquered areas and imposed taxes, either of labor services or goods, on its subjected citizenry. Some early civilizations may have expanded politically, as Wallerstein suggests, to incorporate areas from which they obtained essential resources. Although known

almost exclusively from archaeological data, the Harappan or Indus Valley civilization may have expanded in precisely this fashion. Unlike the Old Assyrian settlement at Kanesh (cf. below) where traders adopted the local material culture, entire Harappan colonies, containing exclusively Harappan materials, have been discovered well beyond the confines of the Indus Valley. The Harappan settlements at Shortughai on the Ai Khanoum plain of northeastern Afghanistan provide the most striking illustration of this difference (cf. Francfort and Pottier 1978). J. Shaffer (1982:44-5) has suggested that the distributional evidence from Harappan sites indicates that foreign trade was unimportant to this early civilization for Harappans built their complex social order through elaborate *internal* exchange networks that redistributed local resources throughout their vast domains; even more intriguingly, Lamberg-Karlovsky (n.d.) recently has proposed that the striking uniformity of Harappan remains and other evidence peculiar to this early civilization may indicate that their society was structured by some incipient *caste* principles which require separate tasks to be performed by specific endogamous groups.

Regardless of whether or not these interpretations are correct, Harappan materials always have been considered enigmatic, if not unique, and its pattern of expansion is not shared by the best-documented early civilization: Mesopotamia. Indeed, consideration of the development of early Mesopotamian civilization reveals that, at least, two features of Wallerstein's analysis are incorrect: (a) 'world-economies' and political empires were not always commensurate with one another, and (b) there existed no irreversible trend for the former to transform itself into the latter. Mesopotamian civilization developed over the course of roughly three millennia: political empires and periods of expansion alternated with periods of breakdown, nomadic or semi-nomadic incursions, and times of intense competition and struggle between local, culturally related, but politically autonomous city-states. Individual cities remained the basic building blocks of state formation in Mesopotamia at least through the third and into the second millennium BC. The well-documented example of the old Assyrian trading network in the early second millennium BC (cf. Larsen, this volume) clearly demonstrates how the economic life and prosperity of a city, Assur, depended upon its middleman role in the long distance exchange primarily of silver and gold from Anatolia for tin and textiles from regions to the east and south. This profit-motivated trade extended far beyond the political borders of any state and linked into a single world system areas stretching from the Anatolian plateau to southern Mesopotamia east across the Iranian plateau possibly to western Afghanistan (Cleuziou and Berthoud 1982). Similarly, the earlier royal archives from Ebla in northern Syria unequivocally demonstrate that even when cities expanded into kingdoms of considerable size they still engaged in essential 'international' exchange, transporting raw materials, luxury goods, textiles, and even livestock and agricultural products, such as olive oil, across recognized political boundaries (Pettinato 1981:chapter VII).

An even earlier reliance on intercultural exchange can be reconstructed from archaeological materials dated to Early Dynastic times. Sumerian civilization, of course, developed on an alluvial plain that was noteworthy for lacking most

essential natural resources besides clay and possibly salt (Potts n.d.). The trade that developed partly as a result of this deficiency cannot be dismissed as the relatively unimportant luxury exchange of status markers among participating elites. As Schneider (1977:23) correctly has emphasized, Wallerstein's distinction between luxury and staple exchanges is misleading and discredits the political importance of the former.

*The relationship of trade to social stratification was not just a matter of an elevated group distinguishing itself through the careful application of sumptuary laws and a monopoly on symbols of status; it further involved the direct and self-conscious manipulation of various semiperipheral and middle level groups through patronage, bestowals, and the calculated distribution of exotic and valued goods.*

Moreover, since trade was one means by which the competing city-states of Early Dynastic Sumer obtained non-indigenous resources, it was essential for them to produce commodities that could be exchanged. Textual and archaeological evidence (cf. Adams 1981:147–51) together confirm that they succeeded primarily by engaging in the surplus production of woollen textiles or a production for exchange that was intimately related to the internal structure of Sumerian society. Analyses of the distribution of archaeological materials in the mid-third millennium have demonstrated that finished commodities, as well as raw materials, were imported into Sumer (Kohl 1978; 1979). In other words, the intercultural trade which developed between resource-poor Mesopotamia and the resource-rich highland areas of Anatolia and Iran necessarily transformed the productive activities of all the societies participating in the exchange network without the development of an overarching polity or empire. For example, a specialized center for the production of elaborately carved soft stone vessels has been excavated at the small, non-urban settlement of Tepe Yahya in southeastern Iran. There is no evidence to suggest that this centre was incorporated into a larger political unit encompassing the urban centers that imported its vessels.

It also has been proposed that Sumerian and other lowland cities held a competitive advantage in this exchange at least insofar as that they could obtain commodities and natural resources from multiple, isolated, and autonomous communities, such as Tepe Yahya, while the highland communities came to rely exclusively upon the goods – textiles and possible foodstuffs – that they received from Mesopotamia and Khuzestan (Kohl 1978:471–2); the highland settlements became locked into unequal exchange relationships for both internal and external reasons. Needs and demands, of course, were artificially created, but, more importantly, the small communities that engaged in the production of highly crafted commodities were themselves internally transformed. Emergent elites who directed these productive activities came to depend upon the continuance of the trade to maintain their newly acquired privileged positions within society. If correct, this pattern seems to resemble Wallerstein's model of the modern world system and leads us to question his reasons for rejecting comparisons between ancient and modern times.

## **Multiple Cores, Unequal Exchange, and Underdevelopment in the Bronze Age**

However, the nature of this unequal exchange and the problem of detecting structurally induced underdevelopment and dependency demand closer scrutiny. Cultural evolution throughout the greater Middle East during the third and second millennia BC was not exclusively nor even dominantly related to developments within Mesopotamia. Reference already has been made to the geographically more extensive and culturally more uniform Harappan civilization, and any complete discussion must consider Egypt and, as shall be examined below, southern Central Asia. There were multiple core areas which co-existed and intermittently came into direct or indirect contact with one another. Each 'core' manipulated an adjacent hinterland which at times it may have attempted to control. Egypt's relations with Nubia, the Levantine coast, and the Sinai peninsula provide a striking illustration of such a regionalized 'world system'. Meluhhan or Indus villagers may have resided in Mesopotamia (Parpola, Parpola, and Brunswig 1977), and now direct archaeological evidence suggests that the Harappans, like the Sumerians, were interested in the copper resources of Oman (Weisgerber n.d.; 1981). Southern Central Asia or what has been termed the Namazga civilization (cf. Kohl 1981) exchanged some materials with Harappan centers as is evident from the discoveries of Indus seals, ivory sticks, and etched carnelian beads at Altyn-Depe in southern Turkmenistan (Masson 1981). Sites along the piedmont strip of southern Turkmenistan and in the lowland plains of Bactria and Margiana contain numerous objects made from materials, such as lapis lazuli, turquoise, and various metals, which were not available locally but which existed in adjacent regions and which must have been procured through some regularized intercultural exchange network. In short, the Bronze Age world system of the late third and early second millennia BC was characterized not by a single dominant core region economically linked to less developed peripheral zones, but by a patchwork of overlapping, geographically disparate core regions or foci of cultural development, each of which primarily exploited its own immediate hinterland.

The existence of such multiple cores in sporadic contact with one another is not a peculiar anomaly of the Bronze Age world system but points to a basic disconformity between this system and that postulated by Wallerstein for the modern era. Specifically, peripheries situated between cores were far from helpless in dictating the terms of exchange; they could develop or terminate relations depending upon whether or not these relations were perceived to be in their best interest. For example, recent archaeological excavations in the United Arab Emirates and Oman at sites such as Hili (Cleuziou n.d.; 1980), Bat (Frifelt 1976), and Maysar (Weisgerber 1981) have revealed the existence of a fairly uniform late third-early second millennia culture characterized by distinctive architecture, ceramics, and mortuary practices which, at least at Maysar, was engaged in the large-scale production of copper for exchange. Evidence also suggests that many more mining and copper refining sites of this period once existed throughout the mountainous interior of Oman but subsequently were destroyed by later Islamic sites exploiting the same

deposits. The archaeological data are consistent with cuneiform documents recording extensive trade with Makkān, a region which exported copper and diorite to Mesopotamia, but ceramics, ingot forms, and an excavated triangular-shaped seal from Maysar also indicate metallurgical relations with South Asia (Weisgerber 1980: 106, fig. 77; n.d.). Although it is still too early to determine whether or not this prehistoric Omani culture maintained exchange relations simultaneously or successively with Sumer and Harappa, it seems impossible to refer to the systematic under-development of this autonomous culture. If anything, prehistoric Oman appears to have prospered or been sustained at a more complex level of cultural development than would have been possible in the absence of these exchange relations. While circumstantial, this evidence seems to contradict a model of exchange so unequal as to foster 'the development of underdevelopment'.

There is little reason to doubt that patterns of dependency or, perhaps better, interdependency were established as a result of intercultural exchange in the Bronze Age world system. Less developed peripheral societies probably were more strongly affected by participation in this exchange than were the more densely populated, internally differentiated civilizations which emerged on lowland alluvial plains. Dependency could lead to exploitation, and, if later myths, such as Enmerkar and the Lord of Aratta, are a guide (cf. Kohl 1978:472 and criticisms pp. 476–84), it is possible that in exceptional circumstances – during a drought or famine – the more powerful urban societies could dictate the terms of the exchange. But the relations between ancient cores and peripheries were not structurally analogous to those which underdevelopment theorists postulate are characteristic of First–Third World relations today. Unless conquered (i.e., incorporated into a larger polity), ancient peripheries could have followed one of several options ranging from withdrawal from the exchange network to substitution of one core partner for another. Archaeological and historical evidence converge to suggest that most intercultural exchange systems in antiquity were fragile, lasting at most a few generations before collapsing. This inherent instability is related to the relative weakness of the bonds of dependency that existed between core and peripheral partners.

### Transferable Technologies: the Case of Central Asia

Peripheral societies of the Bronze Age not only had more options available to them, but they also did not necessarily suffer from a technological gap which doomed them to politically and militarily inferior positions *vis-à-vis* civilized cores. That is, consideration of the technological base of these early Bronze Age civilizations also reveals a fundamental structural discrepancy between ancient and modern world systems. It is not that the scale of intercultural trade in the late third–early second millennia BC was a fraction of that which united the world in the sixteenth century AD, nor that the speed, reliability, and capability of transportation and communication systems in the Bronze Age were greatly circumscribed relative to the systems which developed at the beginning of the modern era. These are relative

phenomena. Rather, a qualitative difference exists because critical technologies, such as metal working and later horse breeding, were not controlled by core areas alone. Bronze Age technologies could not be monopolized but quickly diffused from one area to another or, in this sense, were transferable. Moreover, important technologies often initially developed or were further refined in peripheral areas close to the natural sources of the necessary resources.

The uses to which transferable technologies could be put varied from society to society depending upon their needs and internal structure. In his final summary of the Bronze Age Childe contrasted progressive barbarian Europe with the stultified, despotic societies of the ancient Near East:

*Yet the relations of production that thus made possible the establishment of a metallurgical industry, fettered its development. So the types of tools and weapons and the technical methods for their production, established by 3000 bc, persisted in Egypt and Hither Asia with hardly any progressive change for the next two millennia. The reasons for such stagnation are not far to seek. The urban revolution in the Orient liberated craftsmen and specialists from the necessity of procuring their own food, but only at the cost of complete dependence on a court or a temple. It gave them leisure to perfect their skills but no encouragement to do so along progressive lines; for the last thing to interest a divine king or high priest would be labour-saving devices. . . . The more progressive character of Aegean industry and craftsmanship is legitimately explicable by reference to the social and economic structures within which they functioned. Craftsmen had not been reduced, as in the Orient, to an exploited lower class because no class division had as yet cleaved Aegean societies. Their patrons were themselves practical men who would appreciate the efficiency of tools and weapons. (Childe 1957: 8-9)*

Childe's analysis, of course, is dated, and his insistence on Europe's progressive and the Orient's despotic character – questionable and embarrassingly ethnocentric. Childe consistently underestimated the potential surpluses that could have been generated by Neolithic economies (Kohl and Wright 1977) and thus incorrectly asserted that the first 'regular use of metal' had to have occurred within the highly productive river valleys which spawned the earliest civilizations of the Old World. Though based on the evidence available at the time, Childe's model neglected to consider the potential of peripheral areas for internal technological innovation or for their adoption of easily transferable technologies due to their own internally generated needs; smiths or 'immigrant specialists' simply ventured forth from cores to ply their skills and wares under less repressive social conditions. The model was mechanical and highly diffusionary or core-focused. However, it nicely linked technological development to social structure and, if properly modified, can be used to illustrate another fundamental discrepancy between ancient and modern core-peripheral relations; viz., major technological innovations which made possible new forms of social organization and which could alter existing balances of power often appeared in peripheries or along the frontiers of civilized society. Peripheral societies not only exercised a considerable range of options in dealing with more powerful trade partners but, in certain times and places, also developed new techniques or applied nearly universal skills in a broadly 'progressive' fashion that ultimately had far-reaching social and political consequences.

The remainder of this chapter will illustrate the potential for innovation characteristic of ancient peripheries through consideration of Late Bronze developments in Central Asia.

Western Turkestan, an area that has been referred to as the northeastern frontier of the ancient Near East (Tosi 1973–4) stretches from the Caspian Sea in the west to the Fergana valley in the east and from the Aral Sea in the north to the Hindu Kush and Atrek valley of northeastern Iran in the south. It can be defined as the vast area of interior drainage formed by the streams draining the Kopet Dagh and northern Hindu Kush mountains and by the Atrek, Tedjen, Murghab, Amu Darya, Zeravshan, and Syr Darya rivers and their tributaries (figure 5.1). Today, it is divided among three nation-states: Iran; Afghanistan; and the republics of Turkmenistan, Uzbekistan, Tadzhikistan, and part of Kirghizia in the Soviet Union. The boundaries of prehistoric culture areas and modern political borders rarely coincide, but the existence of the latter usually implies a different history of archaeological investigation for regions separated by the borders, and this fact strongly affects current understanding. Specifically, most of the data presented below has been gathered by Soviet archaeologists working along the fertile *atak* or piedmont strip of southern Turkmenistan and on the lowland plains of Margiana (lower Murghab) and Bactria (southern Uzbekistan-northwestern Afghanistan).

Western Turkestan consists of largely uninhabited deserts (Kara Kum and Kyzyl Kum, in particular), rugged mountain ranges, lowland alluvial plains, watered piedmont zones, and intermontane valleys. Important rivers, such as the Amu Darya and Zeravashan, that rise in the high eastern mountain ranges are fed largely

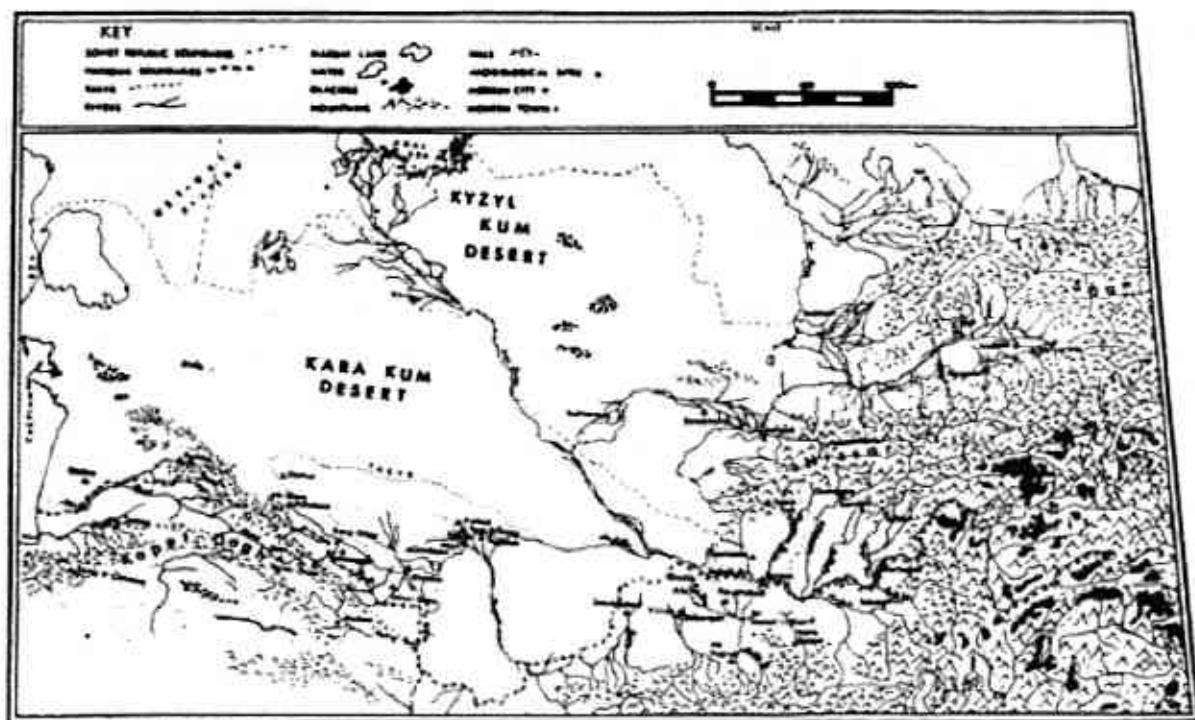


Figure 5.1 [orig. figure 2.1] Western Turkestan: major prehistoric archaeological sites.

by melting snows, while those in the west, such as the Murghab, Tedjen, or numerous streams of the Kopet Dagh, rely more on rainfall or, in some cases, tap groundwater sources (Dolukhanov 1981). Southern Central Asia is a landlocked basin with a sharply continental climate and is very arid, particularly throughout its low-lying plains. While Soviet specialists disagree on the extent of environmental change during the Holocene (contrast Lisitsina 1978: 189–93 with Vinogradov and Mamedov 1975: 234–55), a longer term pattern of general desiccation is clear. Neolithic archaeological remains deep in the Kyzyl Kum and Bronze Age settlements far to the north of the area currently watered by the lower Murghab suggest, at least, that waters flowed much farther into the deserts as recently as the early second millennium BC.

Systematic prehistoric investigations in Central Asia began with the work of R. Pumperly at Anau in 1904, but this initial work only was refined and extended on a large scale by Soviet archaeologists after World War II. Soviet scholars, such as B.A. Kuftin (1956) and V.M. Masson (1956), documented a rich prehistoric sequence along the northern foothills of the Kopet Dagh in southern Turkmenistan which extended from Neolithic through Iron Age times and which related to developments on the Iranian plateau. Soundings at the major urban site of Namazga-Depe (50 ha.) yielded a basic six-period sequence (NMG I–VI) which has been confirmed and further refined by subsequent work, particularly at Altyn-Depe (c. 26 ha.; cf. Masson 1981). While regional differences were detected in specific periods, most scholars were impressed with the uniformity of the Namazga or southern Turkmenistan culture which stretched nearly the entire 600 km. length of the piedmont strip and emphasized that developments in this area led to the appearance of socially differentiated urban societies (Masson 1968). Moreover, ties between southern Turkmenistan and southern areas, like Pakistani Baluchistan, particularly the Quetta valley, and Iranian Seistan, were recognized and even led to speculations of colonization or movements from southern Turkmenistan south as early as the Late Aeneolithic of NMG III period (late fourth millennium) that may have been partly responsible for the emergence of such large centers of Shahr-i Sokhta in eastern Iran (Tosi 1973). In other words, in our terms, southern Turkmenistan was recognized early as its own core area, not perhaps as spectacular or as densely populated as the better known cores of the Tigris-Euphrates, Nile, and Indus valleys, but on which developed a distinctive, internally complex culture that occasionally seemed to have significantly influenced developments in adjacent peripheral areas.

According to Soviet investigators, the NMG-related settlements in southern Turkmenistan continued to expand through the Middle Bronze NMG V (end of third millennium BC) or so-called urban period, but during the subsequent Late Bronze NMG VI period large settlements along the piedmont strip, like Namazga and Altyn, either were abandoned or only continued to be occupied on a sharply reduced scale. Several interpretations – none of which is mutually exclusive – have been advanced to explain this decline, including: (a) environmental degradation due both to natural causes and to human overexploitation of the environment (Dolukhanov 1981); (b) 'barbarian' invasions from the northern steppes, possibly

representing the arrival of Indo-Aryan groups (a theory first proposed by E.F. Schmidt at Anau but later accepted by many Soviet investigators, such as A.A. Marushchenko and A.M. Mandel'shtam); (c) a shift from primarily overland to maritime long-distance trade in the late third millennium BC leading to the decline of settlements not only in southern Turkmenistan but in the Gorgan plain (Tureng Tepe, Shah Tepe), the Iranian plateau (Hissar), and Seistan (Shahi-i Sokhta); this shift may have been associated with the consolidation and southern expansion of the Harappan civilization (Dales 1977); (d) an ingenious thesis of overurbanization (Biscoine 1977), which is based upon an analysis of known settlement size, postulates that too great a percentage of the total population lived in the cities and towns of southern Turkmenistan creating an artificial situation that could not sustain itself; and (e) a theory of colonization or emigration from southern Turkmenistan to the recently discovered and clearly related Bronze Age settlements in Margiana and Bactria (cf. Sarianidi 1981). Reasons for such a colonization need to be established; and determination of when such a movement actually began, how suddenly it occurred, and whether or not it proceeded only from west to east constitute some of the unresolved difficulties with this last explanation.

We cannot review the merits and demerits of each theory; some, like Dales' provocative hypothesis of a shift from overland to maritime trade, are extremely difficult, if not impossible, to establish conclusively on the basis of archaeological evidence. In a very real sense, however, the discoveries of numerous Bronze Age settlements in Margiana and Bactria suggest that a false problem has been posed; a crisis in urbanization or social devolution in southern Central Asia (and by extension throughout areas farther to the south) never occurred. Urban life did not collapse, but settlements shifted in Central Asia to the lowland plain formed by the lower Murghab and to the southern and northern Bactrian plains. These settlements were clearly related in terms of their material features to the earlier settlements in southern Turkmenistan, but they also were different. Sites were obviously planned and fortified; burial practices changed; and more numerous and advanced metal tools and weapons were produced on the Margiana and Bactrian sites. Known area of occupation in Margiana alone during its so-called Gonur or second stage of development (cf. Sarianidi 1981) is roughly double that documented in southern Turkmenistan or the core area during its period of urban florescence (NMG V). If southern and northern Bactria also are considered, the estimated area of expansion, not contraction or collapse, doubles once more. That is, present evidence suggests that settled life minimally was four times as extensive in Bactria and Margiana during the Bronze Age than in southern Turkmenistan (cf. Kohl 1983: chaps. 11, 13, 14, 15 for these estimates). While chronological correlations between the different regions need further clarification, it is obvious that the development of settled life in Bactria and Margiana cannot be accounted for solely or even primarily on the basis of emigration from southern Turkmenistan. In addition, hundreds of archaeological sites or stations, comprised chiefly of lithic remains, have been documented north of Margiana in the Kyzyl Kum desert (Vinogradov and Mamedov 1975) and immediately north of the

Bronze Age sites in southern Bactria (Vinogradov 1979). It is likely that the relatively sudden appearance of planned Bronze Age sites on these lowland plains also involved the incorporation of these less technologically advanced peoples (cf. Kohl 1983: chap. 5 for a discussion of the Kyzyl Kum sequence and its apparent shift in orientation roughly at this time). The known core area of southern Turkmenistan was replaced by new centers in Bactria and Margiana at the end of the third and beginning of the second millennium. The cultures which developed in these newly settled areas clearly were related to the earlier cultures that evolved over several millennia in southern Turkmenistan but also exhibited new features, perhaps reflecting their mixed origins. We will briefly review materials from two Bactrian sites: Sapalli and Dashly 3.

The most informative and supposedly earliest North Bactrian site is Sapalli-Tepe in southwestern Surkhandarya province (Uzbekistan), *a.c.* 4 ha. settlement with a central fortified area ( $82 \times 82$ m.) which was totally excavated by A. Askarov from 1969 to 1973 (figure 5.2; Askarov 1973; 1977). The excavated structures at this obviously planned site were fortified from the outset and consisted of eight separate multi-roomed complexes, termed 'patriarchal households' by the excavator (cf. Askarov 1973: 136–9 for an interesting, if speculative, comparison and contrast of

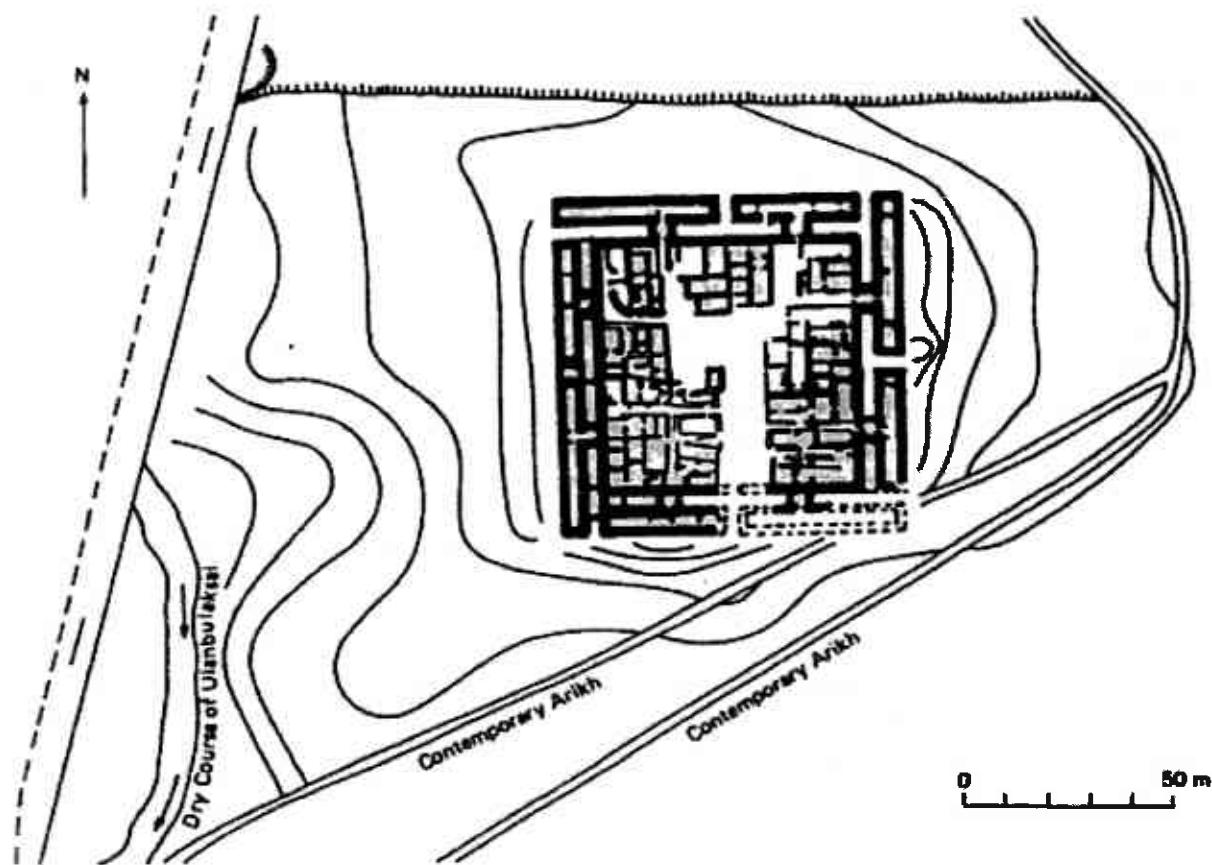


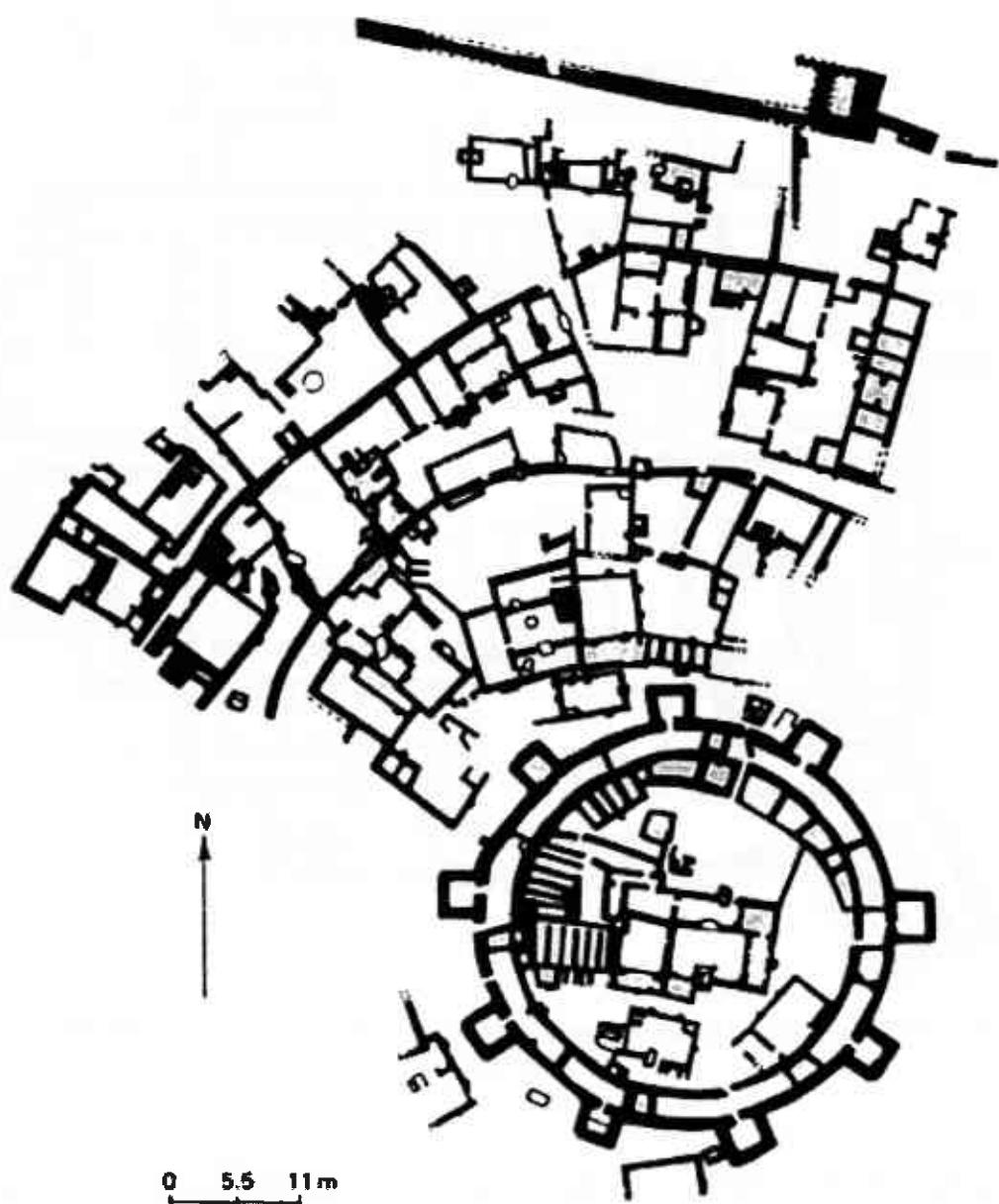
Figure 5.2 [orig. figure 2.2] Sapalli-Tepe: central compound and surrounding area, northern Bactria (southern Uzbekistan).

Sapalli's social organization, as reconstructed from its architecture, with that recorded in the *Avesta*), grouped around a central open area and separated from one another by streets and alleys. These quarters seem to be generally self-sufficient, each containing several domestic hearths and evidence for pottery production. Thirty such hearths, possibly representing as many individual families, were found in the earliest period. While pottery-making was attested for each quarter through the discovery of two-tiered, two-chambered, and one chambered-combined kilns, conditions for production must have been terribly cramped with some kilns having only a c. one sq. m. section. Despite the general picture of independence and self-sufficiency for each quarter, there is some evidence for specialization: bread ovens occur only in certain quarters; quarter 1 has a craft shop for the production of bone and antler tools; quarter 6 has a particularly elaborate potters' workshop; and quarter 3 has a shop for preparing bronzes.

138 graves were excavated under the houses and in the walls at Sapalli, and the preservation was excellent with remains including figured metal pins, shaft-hole axe-adzes (which also can be paralleled on southern Bactrian tombs, at Hissar IIIC, and in the Mehrgarh VIII cemetery and site of Sibri in Pakistani Baluchistan), drilled bead seal-amulets, and food offerings and textiles, including the remains of silk clothing in four cases and caches of wheat and millet seeds. The graves included 125 individual and 13 collective burials or a contrast with the slightly earlier graves from Altyn where roughly 2/3 of the adult burials occurred in collective graves. The richest tombs contain only c. 50 objects, primarily pottery vessels, and female burials in general were richer than those of males. The number of goods in the graves seemed to depend upon the age of the deceased with infant and children's graves containing fewer gifts, possibly suggesting that status was achieved, not ascribed nor inherited. In general, little social differentiation beyond that of sex and age was evident in the Sapalli graves despite the high craftsmanship and sophistication of the grave goods, particularly the metals.

Sites from southern Bactria or northwestern Afghanistan were discovered and excavated by the Soviet-Afghan archaeological expedition from 1969–1979. At least sixty-four Bronze Age sites were recorded in four separate oases along the dried-up extensions of streams, such as the Balkh-ab, flowing down from the western Hindu Kush. Dating of the sites is problematic: a sequence of some duration, probably extending back towards the middle of the third millennium is suggested, though it is also clear that most of the materials should be contemporaneous with the North Bactrian and Margiana settlements which can be dated to the end of the third through the first half of the second millennium BC. Sites include small planned fortified settlements, such as Dashly 1 (110 × 90m.), reminiscent of Sapalli; industrial or craft production sites of uncertain dimensions marked by extensive scatters of debitage, including slag and wasters of lapis lazuli and turquoise; and very large settlements, like the c. 90 ha. site of Farukhabad 1.

The site of Dashly 3 contained two interesting groups of structures: a complex centered around a circular building or 'temple' (figure 5.3; Sarianidi 1977:34–40); and a fortified compound or 'palace' similar to those excavated at Sapalli and



**Figure 5.3 [orig. figure 2.3]** Circular building at Dashly 3: southern Bactria (northwestern Afghanistan).

Dashly 1 (figure 5.4; Sarianidi 1977:41–50). The circular building, which was enclosed within a rectangular wall 130–150 m. to a side, was formed by a double row of walls encircling an area c. 40 m. in diameter. While the interpretation of the site as a temple is speculative, the central building complex contained several enigmatic features, such as hearths built on brick platforms, which were filled with white ash, and pits, which contained lightly burned animal bones, suggesting some possibly non-utilitarian activity associated with the use of fire. Three rings of domestic structures outside the building but within the wall were thought to represent the residences of the separate temple community, though no direct evidence supports this problematic interpretation.

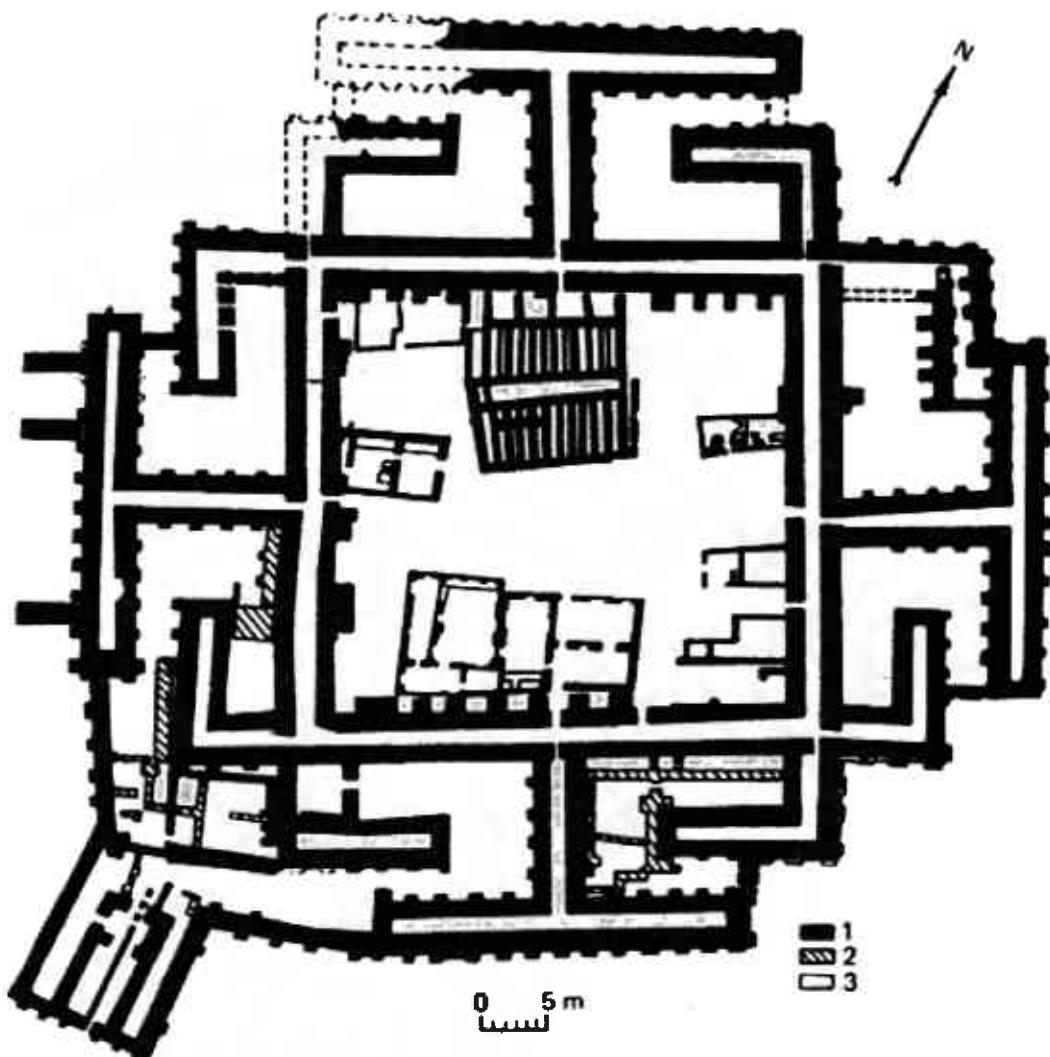


Figure 5.4 [orig. figure 2.4] Dashly 3 'palace' or planned compound: southern Bactria (northwestern Afghanistan).

As at Sapalli, the Dashly 3 'palace' appeared to have been built largely at one time. It consisted of a symmetrical, rectangular walled area ( $84 \times 88$  m.) with an inner central court ( $38 \times 40$  m.) and had several false entrances and narrow T-shaped corridors. Access to the compound was deliberately restricted. After the original buildings were abandoned, new structures were built within the former central court and older rooms were reused, one of which functioned as a place for casting metal. In this room (no. 51) a two-part kiln was situated together with a clay mold for casting an axe-adze and copper ingots. More evidence for metallurgical production was discovered during the final or fourth period of occupation when the original planned architecture had further decayed and poorly built rooms were constructed.

The mortuary evidence from southern Bactria consists of roughly 100 properly excavated burials from Dashly 1 and Dashly 3 and thousands of illegally plundered tombs. In several highly specific respects the former excavated burials closely resemble those from Sapalli and other sites in northern Bactria and suggest rela-

tively little social differentiation. It is more difficult to interpret the plundered tombs since their context has been destroyed. Some of the objects, particularly the metals, from these tombs are truly spectacular (cf. Sarianidi 1977; Amiet 1977, 1978; and the systematic catalogue of objects from the Kabul bazaar by Pottier (1981) offers striking parallels to excavated materials from sites farther south in Baluchistan and southeastern Iran. Some Bactrian seals, for example, appear to have been cast from the same mold as those found in the rich cemetery at Shahdad on the western edge of the Dasht-i Lut in southern Iran (compare Sarianidi 1977:94, Fig. 48, no. 12 with Hakemi 1972: pl. XXIB.). In fact, the plundered Bactrian materials necessitate a re-evaluation of assemblages earlier collected by Stein and other scholars throughout Baluchistan (Jarrige 1982); seemingly incongruous and unexpected discoveries, such as a limestone column and shaft-hole axe from Shahi Tump (Stein 1931:90-4), can be related to the Bactrian materials, suggesting some intensive trade or, more likely, north to south movements of peoples among the regions. Unfortunately, it is impossible to assess properly the significance of the plundered materials, and, until an undisturbed cemetery is scientifically excavated, one can only assume that the same relative similarity of grave lots recorded at Sapalli, other North Bactrian sites, Dashly 1, and Dashly 3 characterized all tombs - even those containing highly crafted objects. That is, despite the beauty and obvious craftsmanship of the Bactrian materials, there are no known royal or disproportionately wealthy tombs; present mortuary evidence suggests relatively little stratification within the society that produced them, an interpretation consistent with the relatively sudden appearance and mixed character of these settlements.

Analysis of these Central Asian materials is not illuminated by a simple reference to Wallerstein's world system's model. Rather, significant discrepancies emerge: an older core (southern Turkmenistan) appears to have been quickly superseded immediately subsequent to its florescence through a large-scale expansion onto formerly uncultivated, natural fertile plains; the new settlements appear to have been remarkably self-sufficient and well-organized, though less internally differentiated than the earlier urban centers of southern Turkmenistan; at the same time, metallurgical technology, in particular, and the scale of subsistence and craft-related productive activities seem to have increased substantially. Peripheral frontier areas were transformed into cores which were both more and less developed than the societies that they replaced. In addition, the recorded shifts in settlements appear to have been accompanied by significant changes in methods of transportation related to the introduction of the horse and utilization of the spoked wheel.

Horse bones are found at Kelleli 1 and/or Taip (Kuzmina 1980:27, 33) and at the later Takhirbai 3 site in Margiana and at Tekkem-Depe and Namazga-Depe in the piedmont strip. The horse initially was domesticated on the south Russian steppe from the Don to the Volga in the fourth millennium and was introduced into Central Asia on a significant scale during the Late Bronze period (*ibid.*). Such an introduction or contact might be suggested by the presence of diagnostic incised 'steppe' ceramics on many of the sites in the lower Murghab and at Tekkem-Depe;

in addition, a clay model head of a horse was found at Namazga-Depe. Although one cannot confidently speak of the advent of mounted pastoral nomadism or the extent of true horsemanship at this time, it seems likely from what is known of immediately succeeding periods (e.g. at Pirak to the south, Jarrige and Santoni 1979) that riding skills were developing at the end of the third and the beginning of the second millennia and that these must have profoundly affected the entire area of southern Central Asia. The evidence for spoked, as opposed to solid, wheels consists of a model wheel with four brown painted spokes and an emphasized hub from Namazga, a wheel with six red painted spokes from Tekkem, and another spoked wheel from El'ken-Depe (Kuzmina 1980: 27). The significance of this development is unclear, though it presumably led to increased mobility and ease of wheeled transport for hauling goods and/or also for military purposes.

The new settled societies in Bactria and Margiana, some of whom may have moved farther south into Baluchistan and eastern Iran, adopted pre-existing, easily transferable technologies in strikingly innovative and politically significant ways. This adoption, possibly analogous to that postulated by Childe for his 'progressive' European barbarians, resulted in the abandonment of an older core area and indeed may have been partly responsible for the collapse of early urban civilization in south Asia (cf. Allchin and Allchin 1982: 298–308). Core areas, in short, were not terribly stable, and critically important technologies, capable of transforming or being transformed by political relations among interacting areas, were readily transferable to less developed regions, some of which were situated closer to natural source deposits or breeding plains for live resources, such as horses. Technologies, of course, did not diffuse automatically, and their importance, even use, differed from one social context to the next. But the model of a world system, which Wallerstein defined for the modern era, only imperfectly describes structured interactions in antiquity. Economic development and dependency were not linked phenomena during the Bronze Age in the manner postulated by contemporary critical theory for – to paraphrase their terminology – the development of underdevelopment in the Bronze Age was sharply constrained or itself under-developed. Critical technologies, such as metal working, could diffuse relatively easily and new means of transportation and sources of power, such as horses, could be raised in peripheral zones and radically restructure this ancient world system. Technological gaps, which dependency theorists argue pervade First–Third World relations today, simply did not exist in the Bronze Age in a manner that signified permanent political dominance or subjugation. Gatherer-hunter and nomadic stockbreeding populations on the Central Asian steppes or on the previously uncultivated plains of Margiana and Bactria rapidly adopted and transformed technologies that developed elsewhere, and these innovations made it possible – not inevitable – for them to alter established methods of interaction and political relations throughout many disparate regions of the greater Middle East.

Central Asia clearly interacted with South Asia and Iran in the late third millennium, but it was neither a core, periphery, or semi-periphery in terms of economic exchange with any of these areas. Contact was at best indirect and sporadic with

Mesopotamia and non-existent with the eastern Mediterranean. A stray chlorite weight carved in an immediately recognizable 'Intercultural Style' (cf. Brentjes 1971) or the discovery of etched carnelian beads in Thailand and Southeast Asian splices in second millennium Mesopotamian contexts do not demonstrate the existence of a unified world system in any meaningful economic sense; materials and ideas simply could have diffused throughout Eurasia in a variety of ways. For Wallerstein's model to apply one must demonstrate economic dependency, and this one can do for only separate, relatively restricted areas of Eurasia during the third and early second millennia BC.

The neo-evolutionary models of regional autonomous development, which can be legitimately criticized for ignoring history or, in Braudelian terms, the conjunction(s) of different structures, remain popular precisely for this reason. Prehistoric materials from the Balkans may bear some resemblance to those from western Turkey but to link them in turn to the Caucasus or, worse yet, Iran and points farther east is to invite ridicule. There was not a single Bronze Age world system but, if you will, over-lapping world systems which constantly shifted and modified their boundaries due to unpredictable historical events, technological changes, or the formation and dissolution of larger political units and alliances. Thus, in the early to mid-third millennium southern Iran, extending the length of the Zagros, was united into a world system dominated by Khuzestan and possibly south-central Iran at the site of Anshan. The Namazga civilization of southern Central Asia formed part of another world system, perhaps spatially resembling that defined by Biscoine and Tosi as prehistoric Turan (1979). Relations with South Asia and its Harappan-dominated world system changed during the latter part of the third millennium, possibly related to the previously mentioned hypothesis of a shift from overland to maritime long-distance exchange and to the development of metallurgy, particularly the production of weapons, and the introduction of horses.

The Bronze Age world systems lacked an equivalent – if we follow Wallerstein – to western Europe in the late fifteenth and sixteenth centuries. There was no direct contact from one end of these Bronze Age world systems to the other. There was no single core, but a patchwork of core areas which succeeded only fleetingly in dominating their peripheral neighbors. The relative impermanence of core and peripheral areas was one of the major distinguishing features of Bronze Age world systems; means of communication and transportation simply were not sufficiently advanced to allow core areas to control and dominate their peripheries for long periods of time. Successful, long-lived political empires only emerged later, and they were explicitly distinguished by their politically imposed unity from the world system of modern times. Moreover, developments that occurred in peripheral zones soon transformed these backward societies, as on the plains of Bactria and Margiana and, perhaps, at Shah-dad in southeastern Iran, into core areas of their own. Expansion and colonization during the Bronze Age into largely unsettled areas continuously stimulated development and were structurally similar to the Greek overseas ventures of the seventh and sixth centuries BC, if not to the much later discovery and conquest of the New World and Australia. However, the

Bronze Age colonies, as in Bactria, soon became more advanced than their homelands for they quickly achieved, if they did not originally possess, political autonomy and could develop relatively freely of limiting historical and social constraints.

The currently fashionable regional ecosystemic perspectives on the development of Bronze Age societies represent an advance over earlier diffusionary theories for they compel us to consider long-term structural phenomena, but they are still inadequate because they refuse to acknowledge the importance of historical events and the coming together of different cultural systems. Although it is notoriously difficult to assess the scale of the exchange of materials and ideas between prehistoric societies, archaeological data unequivocally demonstrate that contact occurred, and it is reasonable to assume that in many cases its effects were substantial. Utilization of Wallerstein's concept of a world system has the singular advantage of emphasizing that such contacts were based on fundamental economic considerations that were not necessarily to every society's adaptive advantage but were the products of stronger societies or elites within those societies attempting to impose their will and desire for material gain upon less developed areas.

However, the correspondence between a Bronze Age (or ancient) and modern world system is far from exact for precisely the reason that the control exercised by core areas was circumscribed and dependent upon relatively egalitarian or transferable technologies and primitive means of transportation and communication. Thus, for example, the advent of mounted warriors and effective chariots transformed interregional relations throughout the ancient Near East during the second millennium BC, ushering in various Dark Ages in older core areas and the emergence of new power centers, as in central Anatolia. For reasons of control and the complexity of the technology upon which this control is based, it is difficult to believe that a structurally similar rapid shift in the balance of power will occur to alter relations between underdeveloped and advanced countries today – at least without the prior internal transformation of the latter.

Cynics might argue that the Wallerstein model, questionable at best for the modern era, is so inapplicable to earlier periods as to make reference to it misleading or meaningless. Models that fail, however, also instruct, and consideration of the economic and political linkages among disparate societies is essential to advance beyond the theoretically simple-minded and empirically inaccurate alternative provided by neo-evolutionism. For both modern and ancient times Wallerstein's model of an interacting world system raises the essential, though often over-looked, problem of determining the most appropriate spatial and temporal unit of analysis. One cannot deny the open-ended nature of social systems in the past any more than one can ignore the interconnections among societies in the modern era (Wolf 1982). Moreover, because such interconnections have intensified during modern times, it is obvious that cultural evolution primarily must be reconstructed from archaeological, not ethnological, evidence. That Wallerstein's model cannot be applied literally to the Bronze Age does not mean that the search for interconnections and structured interaction is unproductive. Rather, the task now is to determine how and why interactions at different,

archaeologically attested stages of cultural development both resembled and differed from those of today. The model cannot be applied literally to earlier social formation, but its necessary alteration may help us better understand the development and character of pre- and early State societies and, perhaps more hopefully, gain insights into the nature of the contemporary world.

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